

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: 236P112

Luminaire Tested: **I5-454T5-TBW-UNV-EBT2-UPL**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-41-14  
Report Number: 236P112  
Test Lab: METALUX LABORATORIES  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: I5-454T5-TBW-UNV-EBT2-UPL  
Description: I5 SERIES LUMINAIRE WITH SPECULAR ALUMINUM MEDIUM  
DISTRIBUTION REFLECTOR AND UPLIGHT, WITH THIN WHITE  
LOUVER  
Light Source: FOUR 54-WATT T5HO - 4400 LUMENS EA  
Ballast/Driver: TWO UNIVERSAL B254PUNV-D

**Summary**

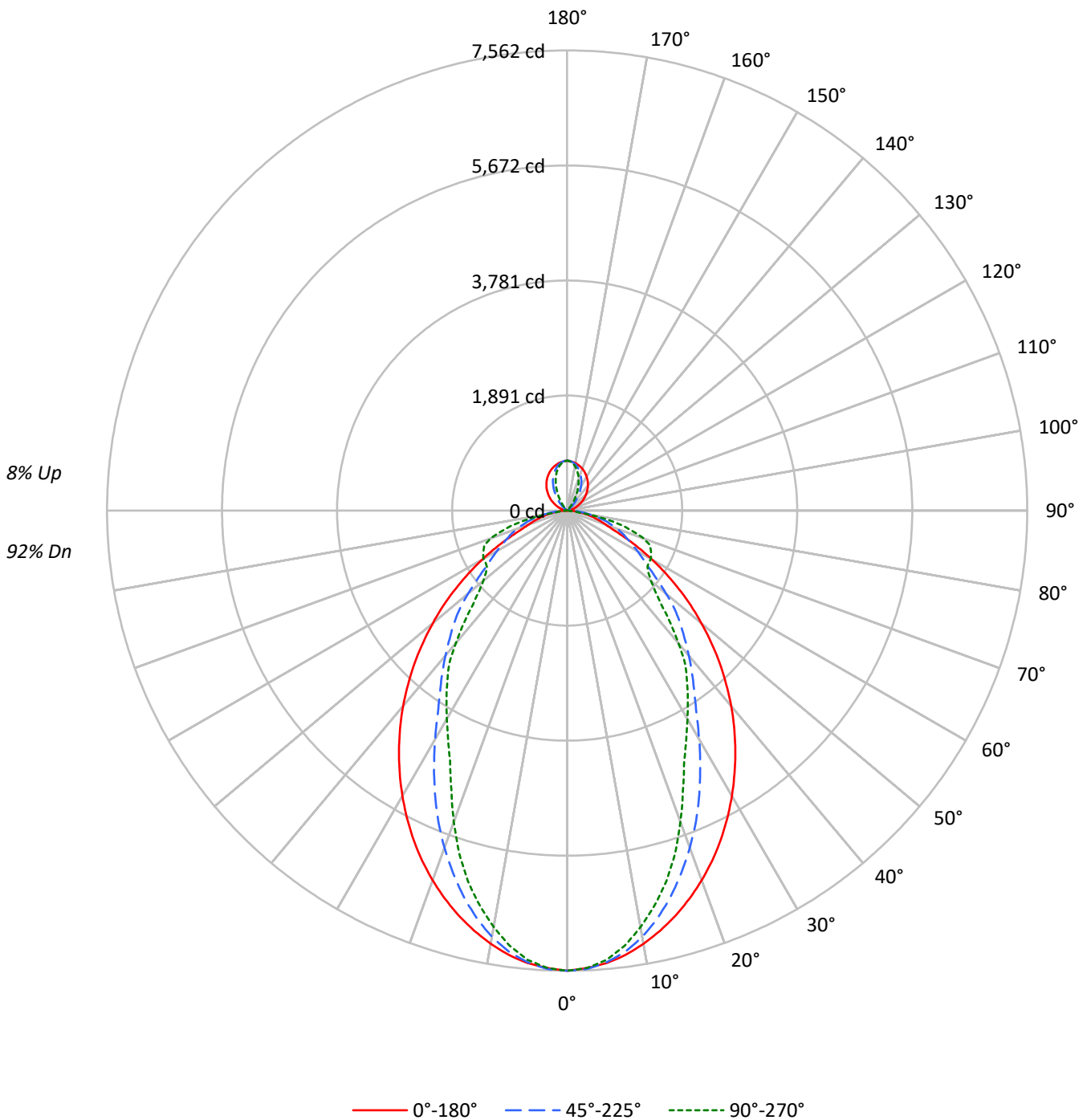
Lumens per Lamp: 4400 (4 lamps)  
Luminaire Lumens: 14296.0 lumens  
Efficiency: 81.2%  
Efficacy: 62.4 lumens/watt  
Spacing Criteria (0/90/45): 1.09 / 0.85 / 1.02  
Luminous Opening: Rectangular w/ Sides (W: 0.85' x L: 3.83' x H: 0.19')  
CIE Type: Direct

Input Watts (W): 229  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT

TEST NUMBER: 236P112

CATALOG NUMBER: I5-454T5-TBW-UNV-EBT2-UPL

### Luminous Intensity Polar Plot





TEST NUMBER: 236P112

CATALOG NUMBER: I5-454T5-TBW-UNV-EBT2-UPL

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																					
0	95	95	95	95	92	92	92	92	87	87	87	82	82	82	77	77	77	75																			
1	88	84	81	78	85	82	79	76	77	75	73	73	71	70	69	68	66	64																			
2	81	75	70	65	78	73	68	64	69	65	62	65	62	59	62	59	57	55																			
3	74	67	61	56	72	65	59	55	62	57	53	58	55	51	56	53	50	48																			
4	69	60	53	48	66	58	52	48	55	50	46	53	49	45	51	47	44	42																			
5	64	54	47	42	61	53	47	42	50	45	41	48	44	40	46	42	39	37																			
6	59	49	43	38	57	48	42	37	46	41	37	44	39	36	42	38	35	33																			
7	55	45	39	34	53	44	38	34	42	37	33	41	36	32	39	35	32	30																			
8	52	41	35	31	50	41	35	30	39	34	30	38	33	29	36	32	29	27																			
9	48	38	32	28	47	38	32	28	36	31	27	35	30	27	34	30	26	25																			
10	46	36	30	26	44	35	29	25	34	29	25	33	28	25	32	27	24	23																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	25003	25003	25003
5°	24669	24322	24125
10°	24063	23098	22452
15°	23272	21379	20356
20°	22348	19386	17714
25°	21298	17199	15022
30°	20094	14894	13367
35°	18794	12953	11992
40°	17387	11551	10351
45°	15788	10307	8389
50°	13997	8873	7307
55°	12031	7396	7031
60°	9816	6635	7570
65°	7397	6008	8017
70°	5709	5520	7995
75°	5012	4825	6456
80°	4176	3517	2527
85°	2929	2306	448



TEST NUMBER: 236P112

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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	699.7	4.9	4.0	0°	7562	7562	7562	7562	7562	
10°-20°	1842.1	12.9	10.5	5°	7465	7453	7452	7432	7411	705
20°-30°	2391.8	16.7	13.6	15°	6889	6792	6569	6379	6303	1937
30°-40°	2443.2	17.1	13.9	25°	5973	5703	5139	4684	4547	2744
40°-50°	2094.7	14.7	11.9	35°	4818	4369	3643	3480	3436	3009
50°-60°	1591.3	11.1	9.0	45°	3544	2978	2630	2347	2195	2728
60°-70°	1193.1	8.3	6.8	55°	2235	1841	1637	1631	1609	1999
70°-80°	711.5	5.0	4.0	65°	1046	1017	1086	1415	1516	1066
80°-90°	192.4	1.3	1.1	75°	465	473	650	907	927	495
90°-100°	41.1	0.3	0.2	85°	121	150	195	198	42	132
100°-110°	31.6	0.2	0.2	90°	1	41	90	119	21	7
110°-120°	54.8	0.4	0.3	95°	16	18	42	59	14	19
120°-130°	98.5	0.7	0.6	105°	92	21	20	20	17	97
130°-140°	155.1	1.1	0.9	115°	200	50	26	24	24	200
140°-150°	227.1	1.6	1.3	125°	335	181	40	33	32	299
150°-160°	253.0	1.8	1.4	135°	467	348	155	41	35	360
160°-170°	199.2	1.4	1.1	145°	588	506	345	226	186	368
170°-180°	75.8	0.5	0.4	155°	689	646	551	461	427	317
0°-30°	4933.7	34.5	28.0	165°	765	751	713	673	658	216
0°-40°	7376.8	51.6	41.9	175°	809	811	809	803	798	77
0°-60°	11062.9	77.4	62.9	180°	820	820	820	820	820	
0°-90°	13159.8	92.1	74.8							
90°-120°	127.6	0.9	0.7							
90°-150°	608.2	4.3	3.5							
90°-180°	1136.0	7.9	6.5							
0°-180°	14296.0	100.0	81.2							



TEST NUMBER: 236P112

CATALOG NUMBER: I5-454T5-TBW-UNV-EBT2-UPL

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	7562	7562	7562	7562	7562
2.5°	7524	7526	7541	7534	7521
5°	7465	7453	7452	7432	7411
7.5°	7365	7341	7312	7261	7215
10°	7230	7191	7114	7012	6951
12.5°	7070	7005	6863	6718	6644
15°	6889	6792	6569	6379	6303
17.5°	6685	6554	6242	6000	5900
20°	6466	6288	5897	5584	5444
22.5°	6228	6004	5529	5130	4974
25°	5973	5703	5139	4684	4547
27.5°	5699	5382	4737	4306	4235
30°	5414	5051	4336	4009	3953
32.5°	5120	4712	3953	3737	3690
35°	4818	4369	3643	3480	3436
37.5°	4512	4029	3370	3232	3189
40°	4196	3684	3110	2981	2848
42.5°	3868	3330	2862	2655	2514
45°	3544	2978	2630	2347	2195
47.5°	3211	2640	2399	2064	1961
50°	2882	2331	2122	1868	1799
52.5°	2561	2078	1864	1736	1683
55°	2235	1841	1637	1631	1609
57.5°	1918	1607	1473	1560	1591
60°	1612	1397	1339	1526	1588
62.5°	1323	1208	1197	1480	1555
65°	1046	1017	1086	1415	1516
67.5°	809	844	988	1337	1468
70°	671	708	874	1258	1335
72.5°	567	585	755	1087	1136
75°	465	473	650	907	927
77.5°	368	385	510	724	660
80°	281	302	387	491	301
82.5°	199	229	296	268	58
85°	121	150	195	198	42
87.5°	47	84	136	153	37
90°	1	41	90	119	21
92.5°	5	22	60	85	13
95°	16	18	42	59	14
97.5°	29	16	31	42	16
100°	46	17	25	29	15
102.5°	67	16	21	22	16
105°	92	21	20	20	17
107.5°	116	24	22	21	18
110°	143	31	22	22	21



TEST NUMBER: 236P112

CATALOG NUMBER: I5-454T5-TBW-UNV-EBT2-UPL

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	171	36	21	24	21
115°	200	50	26	24	24
117.5°	232	81	30	23	23
120°	266	114	32	26	23
122.5°	301	144	38	31	27
125°	335	181	40	33	32
127.5°	369	222	43	35	33
130°	402	265	61	39	36
132.5°	435	307	104	38	38
135°	467	348	155	41	35
137.5°	500	389	198	62	39
140°	531	429	239	114	65
142.5°	559	467	291	174	122
145°	588	506	345	226	186
147.5°	616	544	400	276	241
150°	641	580	452	336	293
152.5°	665	614	502	399	360
155°	689	646	551	461	427
157.5°	711	675	594	520	492
160°	731	704	637	576	552
162.5°	749	729	676	626	607
165°	765	751	713	673	658
167.5°	779	770	745	716	703
170°	792	787	772	752	743
172.5°	802	801	793	782	774
175°	809	811	809	803	798
177.5°	815	817	819	815	813
180°	820	820	820	820	820

(END OF REPORT)